



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,346	06/19/2001	Wen-Yi Kuo	105494	9643

26652 7590 01/05/2007  
AT&T CORP.  
ROOM 2A207  
ONE AT&T WAY  
BEDMINSTER, NJ 07921

EXAMINER
----------

LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
----------	--------------

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

09/883,346

Applicant(s)

KUO, WEN-YI

Examiner

Dmitry Levitan

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 9-13, 15, 16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-13, 15, 16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Amendment, filed 11/20/06, has been entered. Claims 1-6, 9-13, 15, 16 and 18-21 remain pending.

***Claim Rejections - 35 USC § 112***

In light of Applicant's amendment the rejection of claims 2, 9 and 10 under 35 U.S.C. 112, first paragraph has been withdrawn.

***Claim Rejections - 35 USC § 103***

1. Claims 1, 2, 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanghi (US 6,711,150 in view of Malkamaki (US 5,563,895).

Regarding claims 1, 2, 11 and 13, Vanghi substantially teaches the limitations of claims 1, 2, 11 and 13, as a method and an apparatus for transmitting signal frames (1:30-40), comprising:

Generating a frames block *i* that includes *k* of said incoming signal frames, where *i* is an integer index (transmitting inherently generated data burst, comprising *n* frames, as shown on Fig. 2 and 5:26-44),

Transmitting frame blocks *i* with a first power level (the power level defined by the targeted FER, wherein the power control is set to achieve the target FER 4:56-5:5),

Determining whether said step of transmission failed to correctly transmit *j* signal frames of said block *i* (identifying if the frames 1 and 2 from *n* frames of the burst of Fig. 2 were received correctly 5:44-50),

Art Unit: 2616

When said step of determining concludes in affirmative (frames 1 and 3-n are not received correctly 5:46-49),

Retransmitting the failed frames j with a power level that is higher than the power level employed in the previous step of transmitting (retransmitting incorrectly received frames 1 and 3-n 5:52-55, wherein the power of the transmission is increased by of the outer loop power control based on the received frame quality 5:63-6:39),

Incrementing i and returning to the determining step (inherently repeating the process to transmit all the bursts of the signal transmission 1:12-30).

When the determining step concludes in negative (frame 2 is received correctly 5:45-50),

Adjusting the power level, incrementing i and returning to the generating step (decreasing the power of the transmission by of the outer loop power control based on the received frame quality 5:63-6:39).

Vanghi does not teach generating a frame block combining the j incorrectly transmitted frames with subsequent incoming signal frames.

Malkamaki teaches generating a frame block combining the j incorrectly transmitted frames with subsequent incoming signal frames (combining new information and information for retransmission in one block, as shown on Fig. 4 and 8:39-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add generating a frame block combining the j incorrectly transmitted frames with subsequent incoming signal frames of Malkamaki to the system of Vanghi to improve transmission speed of the system, as combining new and failed frames in one block will reduce the system delay by reducing overhead in transmission and acknowledgement of these frames.

In addition, regarding claims 11 and 13, Vanghi also teaches changing targeted FER requirements for different power transmit levels 5:63-6:20.

In addition, regarding claim 13, Vanghi teaches a wireless transmitter, shown on Fig. 1 and a monitor, inherently part of the transmitter on Fig. 1, because the monitor operates as disclosed above in the rejection of claim 1 and Malkamaki teaches a reformatting circuit, inherently portion of transceiver on Fig. 5 and 8:47-9:10, because it is essential for performing the reformatting circuit function as disclosed above in the rejection of claim 1.

2. Regarding claims 3 and 6, Vanghi teaches the system as a CDMA network (Title and 1:5-30) and the incoming signal frames are portions of the signals of the CDMA network.

3. Regarding claims 4 and 15, Vanghi teaches using acknowledgement messages to confirm the sender that the information sent was received correctly (acknowledgements for the entire message/segment of frames 1:40-54 and inherently portion of the system on Fig. 1 to generate them).

4. Regarding claims 9 and 10, Vanghi teaches correlating the power levels to the frame error rates and adjusting the power level to achieve the appropriate FER (nonlinear relations between power control and FER and adjusting power control to achieve desired FER 4:57-5:5).

5. Regarding claim 18, Vanghi teaches the second FER lower than the first FER (reducing FER/MER for k message compared with its value for k-1 message as shown on 8:1-17).

6. Regarding claim 12, Vanghi teaches;

Determining whether one or more second error conditions occurred (identifying the failed frames of the next transmission, as disclosed in the rejection of claims 1, 11 and 13 above);

If at least one second condition occurred, transmitting a third block of third frames at a third power level to target a second frame error rate (increasing the power level of the transmission station another step 3:10-25, similar to the power adjustment disclosed in the rejection of claims 1, 11 and 13 above for transmitting the next data block), wherein the third frame contains at least one second frame associated with one or more second error conditions (retransmitting the failed frames of second data block, as disclosed in the rejection of claims 1, 11 and 13 above, with the data of the next data block), and

If no second condition occurred, transmitting a third block of third frame at the first power level (keeping the first level of the power transmission for the next data block in absence of errors, as disclosed in the rejection of claims 1, 11 and 13 above).

7. Regarding claims 20 and 21, Vanghi teaches operating power control to select power corresponding to desired Frame Error Rate (FER) of the received frames 4:57-5:4, including the initial value, set point, of the power control method 5:63-6:19.

8. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanghi in view of Malkamaki.

Vanghi in view of Malkamaki teaches all the limitations of claims 1, 3, 4, 13 and 15 (see claims rejection above).

Vanghi in view of Malkamaki does not teach the acknowledged segments as TCP segments.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the acknowledged segments as TCP segments to the system of Vanghi in view of Malkamaki to improve the system by utilizing widely used TCP standard, making the system compatible with numerous TCP operated devices.

Art Unit: 2616

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vanghi in view of Malkamaki.

Vanghi in view of Malkamaki teaches all the limitations of claim 1 (see claim 1 rejection above).

Vanghi in view of Malkamaki does not teach each frame-blocks has k frames.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the same size frame-blocks in the system of Vanghi in view of Malkamaki, because the identical size of the frames-blocks will simplify the design of the receiving side of the system.

#### ***Response to Arguments***

10. Applicant's arguments filed 10/20/06 have been fully considered but they are not persuasive.

On pages 9 and 10 of the Response, Applicant argues that Vanghi teaches collections of frames comprising different number of frames and therefore different from the fixed number of frames in the Application.

Examiner respectfully disagrees.

Vanghi teaches the block of frames, as a data burst, shown on Fig. 2, and comprises n frames, wherein n could be fixed or not, as Vanghi method does not require use of the variable number of frames in the data burst/block.

Art Unit: 2616

Applicant's arguments directed to the definition of a block are not supported by the application as filed, wherein the block of frames of Fig. 3 does not limit the number of frames to the shown six frames or does not specify the constant number of the frames in a block [0037].

Therefore the data burst of Vanghi is a frame-block.

In addition, claim 1 limitations do not specify the length of the second (i+1) frame-block in step 4 as k, making any size of the frame-blocks, subsequent to the first frame block, acceptable.

On pages 10 and 11 of the Response, Applicant argues that Vanghi teaches retransmission based on the set based on the length of retransmission, which is contrary to the limitations of claim 1.

Examiner respectfully disagrees.

Vanghi teaches retransmitting the failed frames with higher power 5:52-6:39, wherein the length of the frame is used for calculating the signal/noise threshold. based on the target FER 6:40-55.

Therefore, Vanghi teaches retransmission of the failed frames, as cited limitations of claim 1, as the use of FER for S/N calculations are irrelevant for the claimed retransmission method.

On pages 11 and 12 of the Response, Applicant argues that Vanghi and Malkamaki teachings are not combinable.

Examiner respectfully disagrees.

Both teachings are directed to wireless systems for transmission and retransmission of data blocks, comprising several portions.



Art Unit: 2616

In response to applicant's argument that the references could not be combined, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the incorrectly transmitted frames with subsequent incoming signal frames of Malkamaki with the system of Vanghi to improve transmission speed of the system, as combining new and failed frames in one block will reduce the system delay by reducing overhead in transmission and acknowledgement of these frames.

On page 12 of the Response, Applicant argues that Malkamaki teachings do not meet the frame arrangement of claim 1.

Examiner respectfully disagrees.

Malkamaki clearly teaches generating a frame block combining the incorrectly transmitted frames with subsequent incoming signal frames on Fig. 4 and 8:39-46.

Applicant's arguments directed to time slots as function of the number of frames that needed to be retransmitted are not directed to the limitations of claim 1, wherein step 4(a) requires to generate frame-blocks to include the failed frames with the subsequent frames, without any reference to the structure of the frame-block.

Art Unit: 2616

In addition, Malkamaki clearly teaches the number of slots of frame block of Fig. 4 as flexible, depending on various purposes 8:39-46, contrary to the applicant's statement that the time slots of Malkamaki are fixed.

On pages 12 and 13 of the Response, Applicant argues that the rejection of the previous Office action did not justify the rejection of claim 2.

Examiner respectfully disagrees.

Claims 1 and 2 rejection of the previous Office action clearly matched the teaching of Vaghi with claim 2 limitations: addressing the step of determining, when the step of transmitting was successful (frame 2 was received correctly 5:45-50) and adjusting the power level, incrementing I and returning to the generation step (decreasing the power of the transmission by the outer loop power control based on the received frame quality 5:63-6:39).

On page 14 of the Response, Applicant argues Vanghi does not teach the cited claim 11 limitations.

Examiner respectfully disagrees.

Vanghi clearly teaches limitations of claim 11, directed to changing targeted FER requirements for different power transmit levels, necessitated by the transmission errors 5:63-6:20.

*Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7529. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
DMITRY LEVITAN  
PRIMARY EXAMINER

Dmitry Levitan  
Examiner  
Art Unit 2616